JVC

SERVICE MANUAL

COLOUR TELEVISION

BASIC CHASSIS
CM-F

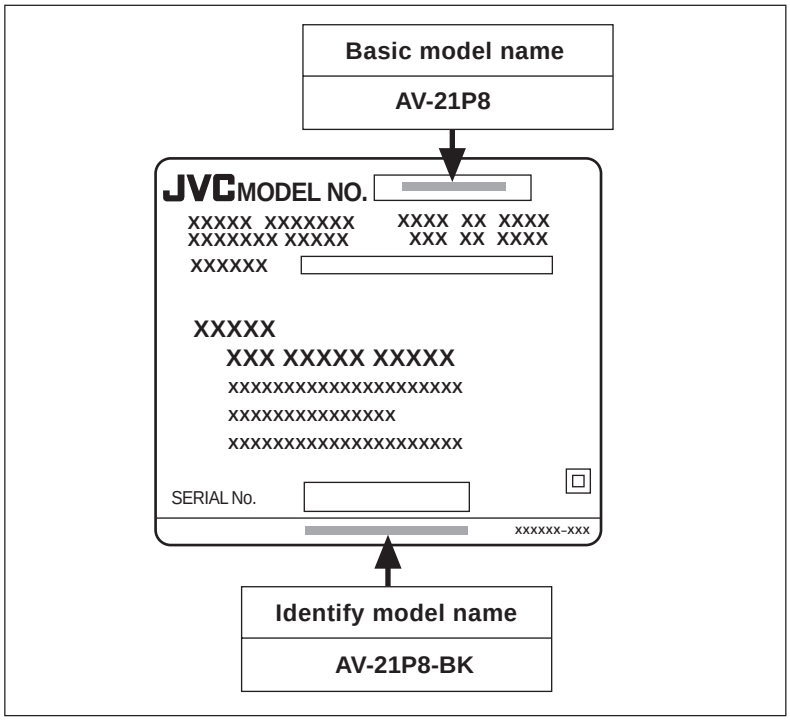
AV-21P8(BK)

This service manual mainly consists of the following items:
• The items which differ from those for the AV-21PX service manual.
• The initial value for each setting item.
For details other than those described in this manual, please refer to the following service manual.
Reference Service Manual: AV-21PX Service Manual (No. 56039, Jul. 2000)

Note: The page in parentheses shows the one for the AV-21PX service manual (No. 56039, Jul. 2000).

HOW TO IDENTIFY MODEL

While referring to the illustration given below, identify model name on the rating label affixed to the rear cover.



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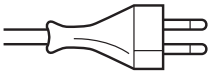
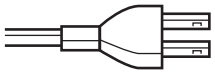
PARTS DIFFERENCE TABLE

The different parts between AV-21PX and AV-21P8(BK) are described below:

⚠	REF. NO.	AV-21PX PART No.	AV-21P8(BK) PART No.	PART NAME	DESCRIPTION
■ **EXPLODED VIEW PARTS LIST (Page 32)**					
⚠	13	QMP40D0-200J5 or QMP40D0-200J3 	**QMPR010-200-E2** **or QMPR010-200-K2** 	POWER CORD	
⚠	18	LC20377-010B-H	**CM22960-076-H**	RATING LABEL	
■ **PRINTED WIRING BOARD PARTS LIST [MAIN PWB ASSY] (Page 34-)**					
	—	SCM-1613A-H2	**SCM-1621A-BK**	MAIN PWB ASSY	
	IC1701	M37204MC-D47SP	**M37204MC-D49SP**	IC (MICROCOMPUTER)	
	IC1702	AT24C08-AV21PS	**AT24C08-21P9BK**	IC (MEMORY)	(Service)
■ **PRINTED WIRING BOARD PARTS LIST [INNER PIN PWB ASSY] (Page 37)**					
	—	SCM-2102A-H2	**SCM-2102A-BK**	INNER PIN PWB ASSY	
■ **PRINTED WIRING BOARD PARTS LIST [CRT SOCKET PWB ASSY] (Page 37-)**					
	—	SCM-3302A-H2	**SCM-3302A-BK**	CRT SOCKET PWB ASSY	
■ **PRINTED WIRING BOARD PARTS LIST [FRONT CONTROL PWB ASSY] (Page 39)**					
	—	SCM-8302A-H2	**SCM-8304A-BK**	FRONT CONTROL PWB ASSY	
	R8022	NRSA02J-681X	———	CH MG R	680Ω 1/10W J
	D8002	SLR-342VR-T16	———	LED (RED)	
		———	**SLR-342MG-T16**	LED (GRN)	
■ **PRINTED WIRING BOARD PARTS LIST [ALC PWB ASSY] (Page 39)**					
	—	SCM0A105A-H2	**SCM0A105A-BK**	ALC PWB ASSY	
■ **PRINTED WIRING BOARD PARTS LIST [IF PWB ASSY] (Page 40-)**					
	—	SCM0F302A-H2	**SCM0F304A-BK**	IF PWB ASSY	
	R0123	NRSA02J-102X	———	CH MG R	1kΩ 1/10W J
	R0125	NRSA02J-181X	———	CH MG R	180Ω 1/10W J
	R0619	———	**NRSA02J-102X**	CH MG R	1kΩ 1/10W J
	L0104	QQL244K-120Z	———	PEAKING COIL	12μH K
	D0104	MA111-X	———	CHIP DIODE	
	Q0103	2SC2412K/QR/-X	———	CHIP TRANSISTOR	
	Q0104	2SA1037AK/QR/-X	———	SI TRANSISTOR	
	Q0110	DTC124EKA-X	———	DIGI TRANSISTOR	
	Q0606	———	**2SA1037AK/QR/-X**	SI TRANSISTOR	
	CF0103	QAX0339-001	———	CERAMIC TRAP	
	CF0601	SFSH4.5MCB	**SFE5.74MC2**	CERAMIC FILTER	

⚠	REF. NO.	AV-21PX PART No.	AV-21P8(BK) PART No.	PART NAME	DESCRIPTION
■ **PRINTED WIRING BOARD PARTS LIST [AV SW PWB ASSY] (Page 41-)**					
	—	SCM0Y502A-H2	**SCM0Y502A-BK**	AV SW PWB ASSY	
■ **PACKING PARTS LIST (Page 43)**					
	1	GG10044-007A-H	**GG10045-004A-H**	PACKING CASE	
	4	RM-C235-1C	**RM-C239-1C**	REMOCON UNIT	
	5	CP30966-001-H	**QPA02503505**	POLY BAG	
⚠	6	LCT0735-001A-H	**LCT0848-001A-H**	INST BOOK	
⚠	8	LCT0736-001A-H	———	DIGEST MANUAL	
⚠	9	LCT0737-001A-H	———	DIGEST MANUAL	
	—	———	**ATEAB001-00A**	MATCHING BOX	

SPECIFICATIONS (Page 2)

Item		Content
Dimensions (W × H × D)		596mm × 468.5mm × 481.5mm
Mass		25kg
TV RF System		B / G, I, D / K, K1, M
Colour System	TV Mode	PAL / SECAM / NTSC3.58 / NTSC4.43
	VIDEO Mode	PAL / SECAM / NTSC3.58 / NTSC4.43
Stereo System		Bilingual in A2
Receiving Frequency	VHF (VL)	46.25MHz ~ 168.25MHz
	VHF (VH)	175.25MHz ~ 463.25MHz
	UHF	471.25MHz ~ 863.25MHz
	CATV	● Cable TVs of Mid (X-Z, S1-S10) Super (S11-S20) & Hyper (S21-S41) bands receivable
Intermediate Frequency	VIF Carrier	38.0MHz
	SIF Carrier	31.5MHz (6.5MHz) 32.0MHz (6.0MHz) 32.5MHz (5.5MHz) 33.5MHz (4.5MHz)
Colour Sub Carrier Frequency		PAL (4.43MHz), SECAM (4.40625MHz / 4.25MHz) NTSC (3.58MHz / 4.43MHz)
Aerial Input Terminal		75Ω Unbalanced
Power Input		Rating: AC110 ~ 240V, 50/60Hz Operating: AC90 ~ 260V, 50/60Hz
Power Consumption		135W (Max.) / 89W (Avg.)
Picture Tube		Visible size : 51cm measured diagonally
High Voltage		29kV +1/–1.5kV (at zero beam current)
Speaker		5 × 12cm Oval type × 2
Audio Output		5W + 5W
Input (S/Video-1, Video-2 & -3, Audio)	Video	1Vp-p, 75Ω
	S/Video	Y: 1Vp-p Positive (negative sync provided, when terminated with 75Ω) C: 0.286Vp-p (burst signal, when terminated with 75Ω)
	Audio (L/R)	500mVrms (–4dBs), High impedance
Output	Video	1Vp-p, 75Ω
	Audio (L/R)	500mVrms (–4dBs), Low impedance
Headphone Jack		Stereo mini jack (3.5ø)
Remote Control Unit		RM-C239-1C (Battery size : AA/R06/UM-3 × 2)

Design & specifications are subject to change without notice.

SPECIFIC SERVICE INSTRUCTIONS

SETTING OF SYSTEM CONSTANT SET (Page 7)

Table 1

Setting item	Setting contents	Setting value
1. COLOUR AUTO	→ YES → NO ┐	NO
2. COLOUR	→ MULTI. → TRIPLE → PAL ┐	MULTI
3. ECO SENSOR	→ YES → NO ┐	YES
4. BASS	→ YES-BB → YES-BB-SB → YES-SB ┐ └ NO-SB-OFF ← NO-SB-ON ← YES-BA ←	NO-SB-ON
5. VOL. LIMITER	→ YES → NO ┐	YES
6. TEXT	→ YES → NO ┐	NO
7. MSP	→ YES → NO → NO-A2 ┐	NO-A2
8. LANGUAGE	→ E/T → E ┐	E/T
9. EW-PIN IC	→ YES → NO ┐	YES
10. B/B OFF MUTE	→ ON → OFF ┐	OFF
11. LED	→ 2 → 3 ┐	3
12. D/K NICAM	→ YES → NO ┐	NO
13. ALC	→ YES → NO ┐	YES
14. BBE	→ YES → NO ┐	NO
15. E.M.C.	→ YES → NO ┐	NO

USER SETTING VALUES (Page 7)

Table 2

Setting item	Setting value	Setting item	Setting value
SUB POWER	ON	BASS	CENTER
CHANNEL POSITION	1 POSITION	BALANCE	CENTER
CHANNEL PRESET	Refer to OPERATING INSTRUCTION	LANGUAGE	THAI
VOLUME	Appropriate sound volume	AUTO VNR	OFF
TV/VIDEO	TV	OFF TIMER	OFF
ON SCREEN DISPLAY	POSITION NUMBER DISPLAY	AUTO SHUTOFF	OFF
COLOUR SYSTEM	AUTO PAL	ECO SENSOR	OFF
SOUND SYSTEM	B / G	AI VOLUME	HIGH
BILINGUAL MODE	I	BLUE BACK	OFF
PICTURE MODE (VSM)	BRIGHT	ON TIMER	PR1 0:00
LIVE SPATIAL	OFF	CHILD LOCK	OFF
TREBLE	CENTER		

SERVICE ADJUSTMENTS

■ Initial Setting Value

■ IF CIRCUIT ADJUSTMENT -- Adjustment of DELAY POINT (Page 15)

Setting (Adjustment) item	Variable range	Initial setting value
DELAY POINT (AGC TAKE-OVER)	0 ~ 63	19

■ V/C (VIDEO/CHROMA) CIRCUIT ADJUSTMENT (Page 15)

[SUB MENU 2. V/C]

Setting item \ Colour system	Variable range	Initial setting value			
		PAL	SECAM	NTSC 3.58	NTSC 4.43
1. CUT OFF (R / G / B)	–128 ~ +127	0	←	←	←
2. DRIVE (R / B)	–128 ~ +127	0	←	←	←
3. BRIGHT (RF/VIDEO)	–128 ~ +127	0 / 0	+2 / –1	0 / –2	———
4. CONT. (RF/VIDEO)	–42 ~ +42	0 / –6	–7 / –8	–8 / –7	———
5. COLOUR	–60 ~ +68	+11	+3	+15	0
6. TINT (TV / VIDEO)	–64 ~ +63	———	———	+12 / 0	0 / –4
7. BLACK OFFSET (R-Y / B-Y)	–8 ~ +7	———	+4 / +2	———	———
8. SHARP (TV / VIDEO)	–32 ~ +31	–15 / 0	←	–20 / 0	———
9. TEXT (RGB) CONT.	–128 ~ +77	+10	←	←	←
10. B.S.OFF	0 ~ +1	0	←	←	←
11. B.S.POINT	0 ~ +7	+6	←	←	←
12. DC TRAN RATE	0 ~ +7	0	←	←	←
13. APA-CON FO/SW	0 ~ +3	+1	←	←	←
14. VSM PHASE	0 ~ +3	+3	←	←	←
15. VSM GAIN	0 ~ +3	+1	←	←	←
16. CLL SW	0 ~ +1	+1	←	←	←
17. CLL LEVEL	0 ~ +3	+2	←	←	←
18. ABL POINT	0 ~ +7	+5	←	←	←
19. ABL GAIN	0 ~ +7	+1	←	←	←
20. Y-DL (TV / VIDEO / S)	0 ~ +7	+2 / +4 / +2	+3 / +3 / +2	+2 / +2 / +2	+4 / +4 / +2
21. P.ACL SW	0 ~ +1	+1	←	←	←
22. WPL SW	0 ~ +1	0	←	←	←
23. Y GAMMA	0 ~ +1	0	←	←	←

: Do not adjust.

Adjustment of SUB COLOUR-II (Page 18)

Adjustment part	Description
5. COLOUR	
PAL COLOUR	Value **(A)** in the figure: Set to **+4V (W & G)**.
SECAM COLOUR	Value **(A)** in the figure: Set to **+3V (W & G)**.
NTSC 3.58 COLOUR	Value **(A)** in the figure: Set to **+4V (W & G)**.

Adjustment of SUB TINT-II (Page 19)

Adjustment part	Description
6. TINT	
NTSC 3.58 TINT	Value **(B)** in the figure: Set to **+3V (W & Cy).**

■ DEFLECTION CIRCUIT ADJUSTMENT (Page 21)

[SUB MENU 4. DEF]

Setting item	Adjustment name	Variable range	Initial setting value	
			50Hz	60Hz
1. TRAPEZ	Trapezoidal distortion correction	–32 ~ +31	–15	–3
2. V-SHIFT	Vertical center	–32 ~ +31	–19	+12
3. V-SIZE	Vertical height	–64 ~ +63	+12	0
4. H-CENT	Horizontal center	–16 ~ +15	–6	0
5. H-SIZE	Horizontal width	–64 ~ +63	+6	0
6. EW-PIN	Side pin correction	–64 ~ +63	–10	0
7. V-S. CR	Vertical height correction	–64 ~ +63	0	+2
8. V-EDGE	Vertical edge correction	–64 ~ +63	+3	+2
9. EW-COR	Side pin fore correction	–64 ~ +63	–1	–1
10. V-LINE	Vertical linearity	–16 ~ +15	0	+2
11. H-COMP	Horizontal compensation	0 ~ +15	+3	0

: Do not adjust.

■ VSM PRESET ADJUSTMENT (Page 25)

[Setting Values for SUB MENU 5. VSM PRESET]

VSM preset mode / VSM Setting item	BRIGHT	STANDARD	SOFT
1. TINT SETTING VALUE	0	←	←
2. COLOUR SETTING VALUE	0	←	←
3. BRIGHT SETTING VALUE	0	←	←
4. CONT. SETTING VALUE	+15	0	–4
5. SHARP SETTING VALUE	0	←	–3

: Do not adjust.

■ CENTER ADJUSTMENT (Page 25)

[SUB MENU 6. CENTER]

Setting item	Initial setting value (fixed)
TREBLE **(Do not adjust.)**	+2
BASS **(Do not adjust.)**	+3

: Do not adjust.

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